

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

FINAL
Conditional Major / Operating
Permit: F-06-072 R1
Ceradyne, Inc.
Lexington, KY 40511
January 21, 2009
Luis D. Fuentes

SOURCE ID:	21-067-00180
SOURCE A.I. #:	55753
ACTIVITY ID:	APE20080002

SOURCE DESCRIPTION:

Ceradyne, Inc. facility, located in Lexington, KY has two process areas: ceramic forms and hot press (armor plates). Ceradyne operates five different manufacturing processes on site: Heating curing and Incinerator; Shot Blast; Power Preparation; Mechanical Pressing; and Binder Removal.

MINOR PERMIT REVISION 1

The source is adding the following equipment:

- 1- A binder furnace (EU 59) (This furnace will be tied into the EU 54 control device);
- 2- A diesel emergency generator (EU 16); and
- 3- A ceramic parts binder removal furnace (Insignificant activity).

The facility is also removing the following processes & equipment from the permit:

- 1- Grinding booths (EU 05A, EU 05B, EU 06A, EU 06B; and
- 2- One Armor plate pre-forming (EU 2D) (Insignificant activity).

The following equipment has been removed from the permit with this revision:

- 1- Line 4
 - a) The heating and curing line (EU 4D); and
 - b) An inductotherm incinerator (EU 16).

Note: Line 4 never was installed. An application for adding Line 4 was received on November 22, 2006. On September 22, 2008 another application was received from the source for removing Line 4. As a consequence of this change, all requirements regarding these emission units (EU 4D and EU 16) were removed from the permit.

2- Flaking operation process (All insignificant activities):

- a) Mixing flake and wax (EU 08);
- c) Armor plate pre-forming (EU 2D);
- d) Hot press/ flake spacer press (EU 03); and
- e) Flake mill (EU 08).

Statement of Basis

The source-wide potential emissions of volatile organic compounds (VOC) and hazardous air pollutants (HAPs) will remain below conditional limits; therefore no change in the existing permitted emission limitations was requested with this addition.

COMMENTS:

Type of control and efficiency:

Type: Incinerator

Make: Blue M

Model: No. 400; 0.25 MMBtu/hr

Numbers of units: 1 (Binder process EU54 and EU 59)

Date installed: January 2006

Efficiency: 99%

Emission factors, their sources and the applicable regulations:

EP number	Description	Emission factor source	Applicable regulation
EU 59	Binder removal	Mass Balance Calculation	401 KAR 63:020. Potentially hazardous matter or toxic substance.
EP 16	Diesel emergency generator	AP-42 (Table 3.3-1A)	40 CFR 60, Subpart IIII

EMISSION AND OPERATING CAPS DESCRIPTION:

The facility's uncontrolled emissions of VOC may exceed 100 tons per year. The potential capacity to emit PM and HAP for all processes will not change the facility's status as a minor source of air pollutant. The incinerator shall be operating at all times to keep VOC and HAP emissions under major source thresholds and preclude the applicability of 401 KAR 52:020, *Title V permits*. See Section B of the permit for operating and emission limits pertaining to the individual emission points, and Section D of the permit for source wide limits.

PERIODIC MONITORING:

See the permit for Specific Monitoring Requirements.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.